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Report of the Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization on education statistics

Note by the Secretary-General

In accordance with Economic and Social Council decision 2016/220 and past practices, the Secretary-General has the honour to transmit the report of the Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization on education statistics. The report provides information on recent developments in international education statistics, in particular in the light of the 2030 Agenda for Sustainable Development.

The Statistical Commission is invited to take note of the report.

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Report of the Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization on education statistics

I. Introduction

1. The present report, submitted pursuant to a request made by the Statistical Commission at its forty-seventh session, held in 2016, addresses six items: (a) the implementation of the International Standard Classification of Education (ISCED) 2011 and the revision of ISCED fields of education and training (ISCED-F); (b) the global and regional education surveys; (c) the development of new statistical methodologies and standards; (d) global and thematic indicators for Sustainable Development Goal 4; (e) the Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization (UNESCO) indicators based on household surveys; and (f) the Global Alliance to Monitor Learning. The Commission is invited to take note of the report.

II. Implementation of the International Standard Classification of Education 2011 and revision of the International Standard Classification of Education fields of education and training

2. Following the adoption of the 2011 revision of ISCED and the 2013 revision of ISCED-F, the UNESCO Institute for Statistics and its education data collection partners, Eurostat and the Organization for Economic Cooperation and Development (OECD), adapted their education survey instruments to the new standards. The 2011 revision of levels of education and educational attainment was implemented in the 2014 round of surveys on education and educational attainment. The new classification for fields of education and training was introduced in the 2016 round of education surveys.

3. Both revisions were developed under the guidance of technical advisory panels of experts in education statistics and classifications, including regional representatives, and were the subject of global consultations by all countries before their adoption by the General Conference of UNESCO in November 2011 and 2013, respectively. Both revisions benefitted from the advice of specialists of the Expert Group on International Statistical Classifications.

4. In the two years between the adoption of the revisions and their implementation in international education surveys, training in the new classifications was provided to countries by the Institute through regional workshops organized on a biennial basis for developing regions. Eurostat and OECD provided similar training for their respective member States and partner countries. In addition, the Institute's network of regional and statistical advisers based in Africa, the Arab States, Asia and the Pacific and Latin America and the Caribbean provided direct in-country support, as requested, as part of their regular work with countries. Both classifications are available in the six official languages of the United Nations: Arabic, Chinese, English, French, Russian and Spanish.

5. The Institute, Eurostat and OECD worked jointly on an operational manual for ISCED 2011, which was published in early 2015 in English, French and Spanish. Later that year, a document containing detailed field descriptions and correspondence tables between ISCED-F and previous classifications of fields of education was published online. Owing to the technical nature of the field descriptions, that document is currently available in English only.

6. In addition to the technical documents supporting the implementation of the revisions, the Institute and its education data collection partners have worked with countries to produce comparisons, or "mappings", of national education programmes and qualifications to ISCED 2011 to assist data users in interpreting the new education indicators. As of the end of 2016, more than 150 mappings had been published on the Institute's website.

7. The vast majority of countries have made good progress in implementing ISCED 2011 in their international reporting of education and education attainment data, with many reporting ISCED 2011-compliant data for the third time in 2016. Since 2016 is the first year of implementation of ISCED-F, it is too early to draw conclusions; however, the evidence so far appears positive, and there have been relatively few questions from countries on the use of the classification.

III. Global and regional education surveys

8. In 2016, the UNESCO Institute for Statistics education data collection was composed of the following 10 elements:

(a) Seven core education questionnaires administered globally and collecting data on the following themes:

(i) Students and teachers for ISCED levels 0-4;

(ii) Educational expenditure for ISCED levels 0-8;

(iii) Students and teachers for ISCED levels 5-8;

(iv) National education systems;

(v) Involvement in the development, processing and dissemination of the UNESCO-OECD-Eurostat (UOE) survey of formal education;

(vi) Literacy;

(vii) Educational attainment;

(b) One global supplementary survey on teacher characteristics and working conditions;

(c) Two regional modules:

(i) School resources in Africa;

(ii) Teacher recruitment and deployment at the subnational level in Asia.

9. Compared with the Institute's previous report to the Statistical Commission in 2013, the main changes in the content and format of the Institute's education survey were:

(a) The implementation in 2014 of the 2011 revision of ISCED and the implementation in 2016 of the ISCED-F classification;

(b) The format of questionnaires changed from PDF to Excel with the use of Statistical Data and Metadata Exchange (SDMX) in 2014;

(c) The content of core questionnaires described above was revised to extend the scope of the survey to cover formal adult education. As part of a redesign process, new variables were added, while others (with very low response rates or low relevance) were removed to streamline the survey design and reduce the burden on respondents;

(d) The global and regional teachers' modules were introduced in 2015;

(e) A global survey on instructional time was introduced in 2013, implemented for two waves and then replaced by the global teachers module in 2015.

10. The UNESCO Institute for Statistics is reviewing its education surveys to align them with the need to monitor the Sustainable Development Goals (in particular the goal for education, Goal 4). As a result of that review, some regionally based surveys (e.g., school infrastructure in Africa) which include relevant variables for monitoring Goal 4, will become part of the global survey. The new Institute data collection based on the review will be launched in 2017. The Institute will lead the review and collaborate with relevant international organizations, including its education data collection partners, OECD and Eurostat. The priorities for the Institute in the coming years will be the improvement of the quality of data collected through its surveys and to support countries, especially those with limited statistical capacity, in improving their abilities to collect and report data. Priorities also include the establishment of data compilation and reporting mechanisms that will promote data use at the national level and improve data reporting at the international level, while reducing the reporting burden on countries. To inform that approach, the Institute has already conducted a thorough profile analysis of country non-response and is reviewing strategies to support national statistical capacity-building.

D. Development of new statistical methodologies and standards

11. To improve the quality and use of financial statistics on education, the Institute, the UNESCO International Institute for Educational Planning (IIEP) and IIEP Pôle de Dakar have pooled their expertise to address the issue of educational expenditure statistics, based on the use of national accounts techniques, building on the theoretical framework of satellite accounts. The result of that collaborative work was the development and publication in mid-2016 of a national education accounts methodological guide elaborated on the principles of existing international standards such as the System of National Accounts 2008 (2008 SNA) and ISCED 2011, and building on previous experience in that area. A national education accounts exercise is a comprehensive education finance data collection, processing and analysis exercise that covers all education levels, from pre-primary to tertiary education, including vocational training. It includes all sources of funding (all levels of government, private and external sources) and all types of education providers,

whether public or private. It serves as a logical and systematic framework for the analysis of education financing flows.

12. Strong technical coordination continues between the Institute and the other major producers of cross-national education data and statistics, namely Eurostat and OECD, in developing SDMX. In the near future, that collaboration will focus on improving the efficiency and effectiveness of data collection and exchanges, with a special emphasis on establishing a broader range of web-based data collections.

13. Key objectives related to Institute data collections in 2017 include:

(a) Publishing a global education data structure definition for the collection of international education statistics;

(b) Introducing online questionnaires as a means of reducing burden and increasing response rates and coverage;

(c) Establishing and implementing a resourcing strategy to support continual improvement and updating of software to meet the rapidly evolving needs of the statistical work programme.

IV. Global and thematic indicators for Sustainable Development Goal 4

14. To lead the development and implementation of thematic indicators for education, the UNESCO Institute for Statistics and the UNESCO Division for Education 2030 Support and Coordination convened the Technical Cooperation Group on Sustainable Development Goal 4 — Education 2030 Indicators in May 2016. The Group provides a platform to discuss and develop the indicators used to monitor targets in an inclusive and transparent manner. It provides recommendations to the Institute on the actions needed to improve data availability and on the development of methodologies to produce thematic indicators for the follow-up and review of Sustainable Development Goal 4. The Group includes experts from 28 member States, international partners (OECD, UNESCO, the United Nations Children's Fund (UNICEF) and the World Bank) and civil society (Education International and the Collective Consultation of NGOs on Education for All) and the Co-Chair of the Sustainable Development Goal Education 2030 Steering Committee.

15. Based on the recommendations of the Technical Advisory Group on Post-2015 Indicators, established by UNESCO in March 2014, the Education 2030 Framework for Action proposed 43 thematic indicators, which included the 11 global monitoring indicators determined by the Inter-Agency and Expert Group on Sustainable Development Goal Indicators of the Statistical Commission. While each global indicator focuses on the outcomes of a target for Sustainable Development Goal 4 (such as the percentage of children meeting a minimum proficiency level in reading), the broader set of thematic indicators is designed to cover the wider agenda and factors that should be addressed in order to achieve each target. The Technical Advisory Group completed its work at the end of 2015 following the adoption of the Education 2030 Framework for Action.

16. The Technical Cooperation Group on Sustainable Development Goal 4 — Education 2030 Indicators met in October 2016 and agreed on a set of 29 indicators, 18 thematic and 11 global, for reporting in 2017. The remaining 14 thematic indicators were identified as requiring further developmental work, which will be addressed by new working groups of the Technical Cooperation Group in 2017. In addition, eight of the indicators (most of them global) for reporting in 2017 will require some further developmental work. More details on the meeting can be found on the website of the Group (see http://tcg.uis.unesco.org/resultoftcgmeeting.php).

17. Technical Cooperation Group is establishing several working groups, each chaired by a member State. The first working group will strategize on how best to address the methodological and availability issues related to those indicators that require further development. The second working group will establish guidelines for reporting data related to Sustainable Development Goal 4 for countries and international agencies, which aligns with the role of the Institute as the nexus for national and international education data. The third working group will identify issues of capacity in reporting specific indicators and develop tools and resources so that countries can understand data requirements, potential data sources and calculation methods. That working group will elaborate a mechanism to help countries develop their own national strategies for the development of education statistics. Finally, members of the Technical Cooperation Group were encouraged to join Global Alliance to Monitor Learning task forces related to indicators on learning outcomes.

V. Institute for Statistics indicators based on household surveys

18. The Institute is leading two groups that measure indicators based on household surveys: the Inter-Agency Group on Education Inequality Indicators and a task force for education spending estimates based on household survey data.

19. A focus on equity is a key feature of the Sustainable Development Goals, which are driven by the objective to leave no one behind. Two goals refer to inequality (Goal 5 on gender equality and Goal 10 on reducing inequality), while most goals include a commitment to reducing disparities. Tracking disparities at the national, regional and global levels has major implications for monitoring. Referring to the Independent Expert Advisory Group on the Data Revolution for Sustainable Development, the Secretary-General, in his synthesis report on the post-2015 sustainable development agenda, noted that broader and systematic disaggregation to reveal inequities would be fundamental (see A/69/700, para. 141).

20. In order to address challenges in measuring equity, the Inter-Agency Group on Education Inequality Indicators was established as part of inter-agency coordination. Led by the Institute, UNICEF and the World Bank, the Group also includes other organizations involved in the production and use of household survey data (the Global Entrepreneurship Monitor report, the Global Partnership for Education, ICF International, OECD, RTI International and the United States Agency for International Development) in order to promote the use of household survey data for education monitoring purposes at the global, regional and national levels, ensuring standardized analysis and reporting in order to complement evidence available through administrative data. The benefit will be increased

efficiency and consistency in the processing of survey data by different agencies, and strong legitimacy for equity-related survey-based indicators to serve the post-2015 education agenda, with particular emphasis on the increasing use of such data by countries. In order to address those multiple challenges, it will be necessary to agree on which areas to prioritize, harmonize approaches to analysis and reporting and identify an efficient sharing of tasks, ranging from country consultation to building up a data depository.

21. The initial focus of the Group is on three indicators proposed to monitor target 4.1 of Sustainable Development Goal 4: the completion rate; the out-of-school rate; and the percentage of children over-age for grade. The group will address other objectives in the course of the next three to five years, including harmonizing the processing of survey data, defining indicators, harmonizing the definition of individual characteristics and documenting, evaluating and pooling survey data sources.

22. The Group met in May 2016 in order to agree on key education indicators for harmonization and common reporting, exchange and review methodologies employed by respective agencies, agree on harmonizing methodologies for producing estimates for key indicators, discuss potential data sources and methods of sharing and identify members for an expert group that would provide recommendations to the Group. Since the meeting, efforts have been under way to implement agreed harmonized methodologies to process demographic and health survey and multiple indicator cluster survey data since 1990 and other national household survey data.

VI. Making a difference in measuring learning outcomes: the Global Alliance to Monitor Learning

23. The Institute established the Global Alliance to Monitor Learning to help identify solutions to the technical challenges inherent in generating a universal learning indicator and globally comparable measurements. Its key objective is to support member States in building high-quality and sustainable learning assessment systems and ensuring reporting for indicators for Sustainable Development Goal 4.

24. The Global Alliance to Monitor Learning will produce the standards and guidelines for learning assessment and methodological development to ensure national and global data reporting, including the following:

(a) National learning assessments: a manual of good practices, a catalogue of learning assessments and a data quality assessment framework for learning assessment;

(b) Global reporting: global framework for reference, standards for reporting, data validation protocols and a global achievement scale.

25. The Global Alliance to Monitor Learning operates as a platform for dialogue among diverse stakeholders to reach technical solutions to measure Sustainable Development Goal 4, including the creation of a framework to allow for comparable indicators of learning across nations. It relies on a range of partners, including

researchers, country representatives, multilateral and bilateral organizations, funders and civil society organizations.

26. Fostering that exchange or dialogue is essential to resolving the broad questions raised by the measurement of learning and to jointly identify and agree upon new solutions. Countries use a range of measures to produce information on learning and education quality. Each measure has its pros and cons, but they share many common points and complementary functions. Against that backdrop of diversity in perspectives and approaches, the international community has been called upon to produce a succinct and globally comparable indicator of learning. The Institute has already worked on a new methodology based on anchoring regional and international assessments so that they will be reported on the same scale for Sustainable Development Goal 4, indicator 4.1.1, points (b) and (c). In the next phase, which has already started, national assessment will be anchored as well. This methodology is equally important for resolving questions regarding the measurement of learning outcomes for other Goal targets, including 4.2, 4.4, 4.6 and 4.7.

27. The work is led by the Institute with the support of technical partners to produce the technical documents and guidelines. Task forces are being created in order to provide the Institute with recommendations on how best to measure each target, taking into account a wide range of organizational and technical viewpoints. The Institute will work with individual task force leads to identify the technical work needed to advance new measures and manage technical partners in successfully completing the tasks.

A. Global reporting scale

28. Development of and agreement on global reporting scales, in particular, are needed. As part of a pragmatic approach to resolve those issues, the Institute has developed a database to produce "proxy" indicators (which are not internationally comparable) to be used for reporting purposes in the interim. That will enable the Institute to produce an initial database to assess the share of pupils across nations achieving low proficiency levels in December 2016. The database can be used as an alternative for reporting on target 4.1 of Sustainable Development Goal 4 until other approaches, such as the universal learning scale, are developed.

B. Key tools produced by/for the Global Alliance to Monitor Learning

29. **Catalogue of Learning Assessment 2.0: technical document and questionnaire**. The new Catalogue (version 2.0) consists of three modules:

(a) Module 1: a streamlined mapping instrument to collect basic descriptive information about assessment and examination activities in countries, including household-based surveys and coverage on early childhood development and upper secondary education, in addition to primary and lower secondary education;

(b) Module 2: instrument(s) to collect national data needed to report learning outcomes for Sustainable Development Goal 4 indicators;

(c) Module 3: instrument(s) to collect the information needed to evaluate the robustness of assessment and examination systems and identify the capacity-building needs of countries.

30. **Mapping of the Global Content Framework for Reference**. A content reference list is under development for reading and mathematics for indicator 4.1.1 of Sustainable Development Goal 4, and a coding scheme is under development to map reading and mathematics national assessment frameworks onto the respective content reference list in order to develop a comprehensive global content framework for reference in each subject area.

31. **Manual of Good Practices in Learning Assessments**. A manual of good practices in learning assessments is under development. Good practices are being assembled to produce a comprehensive reference for countries that are intending to develop or update their national assessments.

32. **Data Quality Assurance Framework draft guidelines for discussion**. A concept note on the Data Quality Assurance Framework for learning assessment has been developed. Elaboration is also under way for the two main evaluation processes of the Framework:

(a) The evaluation of alignment process, on the alignment of national assessment content onto the common framework;

(b) The assessment of data processes, on the assessment of the quality of the national assessment data.

33. **Universal learning scale**. A reference scale to which all national and cross-national assessments can be mapped and aligned for global reporting has been developed and is ready to be piloted in the first quarter of 2017. The validation of the "proficiency level" on the universal achievement scale is necessary as a benchmark for reporting on the minimum proficiency in each subject area.

34. **Validation and benchmarking for the universal learning scale**. A draft concept note for discussion has been developed.

35. **Database of results from regional and international learning assessments**. A database is being developed to produce comparable data across nations on learning achievements and minimum proficiencies in mathematics and reading. To map countries to a common scale, an improved anchoring methodology has been produced which enables the linkage of the three points of measurement of indicator 4.1.1 of Sustainable Development Goal 4.

VII. Action required by the Statistical Commission

36. The Statistical Commission is invited to take note of the present report.